

REMARKS

I. Status of the Claims

Claims 1-121 are pending in this application. Claims 36-71 and 90-121 have been withdrawn from consideration by the Examiner. Claims 4 and 19 have been amended herein to clarify that R₂ is chosen from C₄ to C₁₂ cycloalkyl groups and a tert-butyl group. Claims 6 and 21 have been amended to clarify that R₂ may be further chosen from isobornyl groups. Support for these amendments can be found in original claims 6 and 21, and in the specification as-filed at paragraph [079].

Accordingly, no new matter has been added by these amendments.

Applicants respectfully remind the Examiner of her duty to examine the withdrawn claims upon the determination of allowable subject matter.

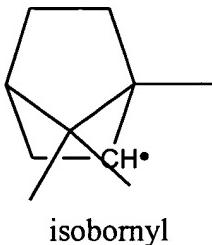
II. Rejections under 35 U.S.C. § 112, second paragraph

A. Claims 6 and 21

The Examiner rejects claims 6 and 21 under 35 U.S.C. § 112, second paragraph as “being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.” Office Action at 3. In particular, the Examiner asserts that isobornyl acrylate and tert-butyl do “not fall into the definition of ‘C₄ to C₁₂ cycloalkyl group.’ Please clarify.” *Id.*

Applicants acknowledge that tert-butyl is not a C₄ to C₁₂ cycloalkyl group. Claims 6 and 21 have therefore been amended to specify that the C₄ to C₁₂ cycloalkyl groups can be chosen from isobornyl groups. Claims 4 and 19 have also been amended to clarify that tert-butyl is an option for R₂, and not a C₄ to C₁₂ cycloalkyl group.

Moreover, claim 6 has also been amended to correct "isobornyl acrylate" to read "isobornyl groups." Isobornyl groups have the following structure:



and therefore do, in fact, fall into the definition of C₄ to C₁₂ cycloalkyl groups.

Accordingly, this rejection is now moot, and Applicants respectfully request its withdrawal.

B. Claims 10 and 29

The Examiner rejects claims 10 and 29 under 35 U.S.C. § 112, second paragraph as "being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention." Office Action at 3. In particular, the Examiner asks "on the second line from the bottom of the claims, do applicants intend 'vinyl' alcohol? Please clarify." *Id.*

Applicants assert that "vinyl alcohol" is the intended term, and respectfully request that the Examiner withdraw this rejection as no grounds for rejection have been given.

III. Rejection under 35 U.S.C. § 103(a)

The Examiner rejects claims 1-35, and 7-89 under 35 U.S.C. § 103(a) "as being unpatentable over" Galleguillos et al. (U.S. Patent No. 6,410,005) ("Galleguillos"), or Kitayama et al. (U.S. Patent No. 6,228,946) ("Kitayama"), or Frechet et al. (U.S. Patent Nos. 6,663,855 and 6,685,925) ("Frechet '855" and "Frechet '925" respectively), or

JP-2002-201244. Office Action at 4-8. Specifically, the Examiner asserts that the references cited "provide clear disclosures regarding the method and the selection of various monomers [sic] species in formation block copolymer systems having balance of hydrophilic/hydrophobic properties. The selection of hard and soft block components with differences in glass transition temperature is suggested within the scope of the present claims." *Id.* at 7. The Examiner concludes that "one skilled in the art would have readily envisaged the selection of the suitable monomers having Tg differences as taught, motivated by the reasonable expectation of success in forming block copolymers with balanced hydrophilic/hydrophobic characteristics." *Id.*

Applicants respectfully traverse for at least the reason that the Examiner has not established a *prima facie* case of obviousness. In particular, the references cited by the Examiner do not teach or suggest all of the claim limitations of the pending claims, nor is there any suggestion or motivation, either in the cited references or in the knowledge generally available to one of ordinary skill in the art, to modify or combine references.

See M.P.E.P. § 2143.

Independent claim 1 recites:

A block polymer comprising
at least one first block and at least one second block that are incompatible with each other and that have different glass transition temperatures (Tg), wherein the at least one first and second blocks are linked together via an intermediate segment comprising at least one constituent monomer of the at least one first block and at least one constituent monomer of the at least one second block, and wherein the block polymer has a polydispersity index I of greater than 2.

See claim 1 as-filed (emphasis added). Applicants respectfully contend that the cited references, either taken separately or combined, do not render the present application obvious, as they do not teach or suggest all of the claim limitations. First, the references do not teach or suggest a triblock block polymer as claimed, wherein the third or “intermediate” block is a block “comprising at least one constituent monomer of the at least one first block and at least one constituent monomer of the at least one second block.” See, e.g., claim 1. Second, the references do not teach or disclose a block polymer as claimed with a polydispersity index I of greater than 2. The polydispersity index recited by the present claims, and as defined by the specification, is the polydispersity index of the entire block polymer, i.e., “the ratio of the weight-average mass M_w to the number-average mass M_n ,” of the entire polymer. See specification as-filed at paragraph [047].

Galleguillos teaches a copolymer that “includes a polyacrylate backbone of hydrophobic blocks, with hydrophilic acrylate side chains.” See, e.g., Galleguillos Abstract. The different blocks are not held together by an intermediate block “comprising at least one constituent monomer of the at least one first block and at least one constituent monomer of the at least one second block,” as claimed. Moreover, with respect to Galleguillos, although molecular weight is mentioned, e.g., at col. 5, the disclosure does not specify number average or weight average molecular weight for the block copolymer, so the polydispersity index cannot be determined.

Kitayama teaches a block polymer with three different blocks, A, B, and C. See, e.g., Kitayama Abstract. However, the three different blocks do not correspond to the

claimed three blocks as Kitayama does not teach an intermediate block “comprising at least one constituent monomer of the at least one first block and at least one constituent monomer of the at least one second block,” as presently claimed. Moreover, with respect to Kitayama, as pointed out by the Examiner, the block copolymer disclosed therein has a molecular weight distribution, *i.e.*, weight-average molecular weight to number-average molecular weight ratio, ranging from 1.0 to 2.0. See Kitayama at col. 5, lines 47-51. The Examiner argues that the value 2.0 “abuts applicants’ value” of “greater than 2.” Office Action at 5. Applicants respectfully point out that a value “abutting” the claimed range is completely different from falling within the claimed range. Specifically, the value abutting the claimed range is still considered as falling outside of the claimed range.

The Frechet references teach block copolymers with “a core polymer having a backbone comprising at least a proportion of C-C bonds and two or more flanking polymers. Each flanking polymer is covalently bound to an end of the core polymer. . . .” See, e.g., the Frechet references’ Abstracts. There is no teaching of an intermediate block in the Frechet block copolymers, let alone an intermediate block “comprising at least one constituent monomer of the at least one first block and at least one constituent monomer of the at least one second block,” as claimed. Moreover, with respect to the Frechet references, the Examiner states that they teach the “Mn and Mw of the respective core and flanking polymers within the claimed range. A molar ratio of the core polymer to the flanking polymer from 1:10 to 10:1 is further suggested.” Office Action at 6 (citing Frechet at col. 5, lines 1-15). Applicants respectfully disagree with the Examiner. It appears that the Examiner is incorrectly equating the ratio of the core to

the flanking polymers to the claimed polydispersity index. As discussed above, the polydispersity index recited by the present claims, and as defined by the specification, is the polydispersity index of the entire block polymer, *i.e.*, “the ratio of the weight-average mass M_w to the number-average mass M_n,” of the entire polymer. See specification as-filed at paragraph [047]. Thus, the ratio of the core polymer to the flanking polymers is not the polydispersity index as-claimed.

JP-2002-201244 teaches “an acrylic block copolymer which comes to give 2 or more sets of monomer components of a different presentation.” JP-2002-201244 “translation” at paragraph [0013]. JP-2002-201244 does not teach that the at least two monomers have different glass transition temperatures, nor does it teach an intermediate block “comprising at least one constituent monomer of the at least one first block and at least one constituent monomer of the at least one second block,” as presently claimed. Moreover, when discussing JP-2002-201244, the Examiner contends that the “[p]rior art discloses weight average molecular weight and M_w/M_n in applicants’ range.” Office Action at 7 (citing JP-2002-201244 “translation” at paragraph [0036] and Table 1). Applicants respectfully disagree and contend that JP-2002-201244 does not teach the claimed polydispersity limitation. First, paragraph [0036] of the translation only discusses weight average molecular weight and not number average molecular weight. Second, Table 1 does not make clear whether the M_w and M_n listed are for the entire polymer, specific blocks, or something else, and thus it is improper for the Examiner to draw a negative inference against Applicants’ claims.

Finally, JP-2002-201244 is not a proper reference under 35 U.S.C. § 103 because it is not in an analogous art. See M.P.E.P. § 2141.01(a) (“In order to rely on a

reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned.") (quoting *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992)). If a cited reference is not analogous art, it has no bearing on the obviousness of the patent claims. See *Jurgens v. McKasy*, 927 F.2d 1552, 18 USPQ2d 1031 (Fed. Cir. 1991).

When determining whether references are within the pertinent art, the Examiner should look to the nature of the problem confronting the inventor, and should consider whether the field of a reference is reasonably pertinent to that problem. See *Shatterproof Glass Corp. v. Libbey-Owens Ford Co.*, 758 F.2d 613, 225 USPQ 634 (Fed. Cir. 1985). There are two criteria for determining if prior art is analogous: (1) whether the art is from the same field of endeavor, regardless of the problem to be addressed, and (2) if the reference is not within the field of endeavor, whether the reference is still reasonably pertinent to the particular problem the inventor is trying to solve. See *In re Clay*, 966 F.2d 656, 23 USPQ2d 1058 (Fed. Cir. 1992).

In the present case, JP-2002-201244 "relates to the manufacture approach of the constituent for sound deadeners," which is in no way related to polymers for use in the cosmetic arts. JP-2002-201244 translation at paragraph [0001]. Moreover, the problem sought to be solved by the disclosure of JP-2002-201244 is "deadening" of vibration and sound for engines. See JP-2002-201244 translation at paragraphs [0010] to [0012]. In contrast, the problem sought to be solved by the present invention is controlling phase-separation in cosmetic compositions. See, e.g., Specification as-filed at paragraphs [006]-[007]. Thus, one of ordinary skill in the cosmetic arts attempted to solve the

problem solved by the present invention would not have been motivated to look at this reference when formulating a composition to aid with composition stability. JP-2002-201244 is not in an analogous art, not in the same field of endeavor, and does not discuss subject matter relevant to the problem solved by the present invention.

Accordingly, the Examiner has not established a *prima facie* showing of obviousness with respect to the claimed invention. Therefore, this rejection is in error and Applicants respectfully request its withdrawal.

IV. Double Patenting Rejection

The Examiner provisionally rejects claims 1-35, and 72-89 under the judicially created doctrine of obviousness-type double patenting as allegedly being “unpatentable over claims 1-101 of copending Application No. 10/670,388. Office Action at 8. The Examiner also provisionally rejects claims 1-35, and 72-89 under the judicially created doctrine of obviousness-type double patenting as allegedly being “unpatentable over claims 1, 4-31, and 43-102 of copending Application No. 11/089,210. *Id.*

Applicants respectfully request that this rejection be held in abeyance until allowable subject matter is indicated.

CONCLUSION

In view of the above amendments and remarks, Applicants request reconsideration of the application, and the timely allowance of the pending claims.

If the Examiner believes a telephone conference could be useful in resolving any of the outstanding issues, he is respectfully urged to contact Applicants' undersigned counsel at 202-408-4368.

If there is any fee due in connection with the filing of this Statement, please charge the fee to our Deposit Account No. 06-0916.

Respectfully submitted,

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